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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the glass laminate used for a building etc.

[0002]

[Description of the Prior Art] Adjustment of the diffusion coefficient of light or permeability and improvement in design nature have been achieved by inserting into the interior of a glass laminate conventionally what gave gravure and silk screen printing to the polyethylene terephthalate film (henceforth a PET film).

[0003] Moreover, the ornamental glass plate (JP,1-80418,U) which carried out sequential formation of a primer layer, an imprint layer, and the hardening resin layer is known by the glass laminate (JP,50-65584,A) using the interlayer for laminating glass which imprinted ink on the poly vinyl butyral film, and the glass plate.

[0004] However, there is demerit different, respectively with the conventional technique. That is, in the case of gravure, the version for printing is expensive, and it needs for the lot which is the production quantity of one production unit to be large, and cannot respond to the needs of limited production with a wide variety. Moreover, it was difficult for silk screen printing for a print quality to be inferior as compared with gravure or offset printing, and to carry out a delicate expression.

[0005] Moreover, the method of manufacturing a glass laminate using a replica method indicated by JP,50-65584,A had many processes, and that of the protection not only to there being many processes but the printing film was inadequate. [of the method of not using a glass laminate indicated by JP,1-80814,U] on the other hand -- offset printing -- a version -- cheap -- a small lot production -- enough -- a response -- possible -- and high -- although there was the advantage in which precise printing could be performed, since lightfastness was not good, it was not used for the building-materials field.

[0006]

[Problem(s) to be Solved by the Invention] The object of this invention offers newly the glass laminate which design nature is raised and can respond to various applications while solving the above-mentioned trouble which the conventional technique had, solving the problem about magnitude of a lot like a conventional method, the price of a version, a print quality, and lightfastness and performing accommodation and modulated light of visibility.

[0007]

[Means for Solving the Problem] This invention is made in view of the above-mentioned technical problem of the conventional technique, allots the glue line made of synthetic resin which had an adhesion function in the both sides of the wood-graining film of at least one sheet with which it comes to form a pattern [that ink was printed by the predetermined pattern by offset printing] layer, and provides the both sides of the glue line made of synthetic resin with the glass laminate characterized by coming to carry out laminating adhesion of the glass plate further. In addition, in order to give an ultraviolet-rays cut function to a glass laminate, it is desirable to use for the interlayer made of synthetic resin of at least one layer the ultraviolet-rays cut interlayer made of synthetic resin who has an

ultraviolet-rays cut function.

[0008] As offset ink used for this invention, the ink for various kinds of offset, such as chlorination vinyl acetate system ink and fluorine system ink, can be used.

[0009] Moreover, as a synthetic-resin nature glue line and a sex ultraviolet-rays cut interlayer made of synthetic resin, thermoplastics, thermosetting resin, the hardening mold resin hardened by light can be used. For example, ethylene vinyl acetate, a polyvinyl butyral, polyvinyl chloride, an acrylic photopolymerization mold prepolymer, an acrylic catalytic polymerization mold prepolymer, the photopolymerization mold prepolymer of acrylic ester and vinyl acetate, etc. are usable.

[0010] In addition, the laminating of a glass plate and the wood-graining film is carried out by overheating sticking by pressure by the autoclave using thermoplastics, and when carrying out adhesion unification, since a wood-graining film does not carry out [the way which uses a wood-graining film with softening temperature higher than the softening temperature of the interlayer made of synthetic resin] heat deformation but the configuration of a pattern is stabilized, it is desirable.

[0011] Moreover, as a glass plate, tempered glass besides the glass plate by the float glass process, heat absorbing glass, heat reflective glass, the figured glass that has irregularity in a front face, frosted glass, etc. can be used. Moreover, it can also multiple-glass-ize using the glass laminate of this invention.

[0012] The glass laminate of this invention is considered by large areas, such as application to the others and facility device which are building opening, a partition, etc., and a transport-airplane dexterous way.

[0013]

[Function] Since the wood-graining film which adhered to ink by offset printing is used for the front face as an interlayer one or more sheets, as for the glass laminate of this invention, accommodation of visibility, modulated light, and the ornament effectiveness are acquired. Moreover, the glass laminate of this invention can be manufactured by low cost it not only excels in functionality and design nature, but, and its workability is also good.

[0014]

[Example] Drawing 1 is the sectional view of the glass laminate of this invention, 5 and 5 are allotted inside a glass plate in the glass plate with which 1 and 2 constitute both the lateral surface of a glass laminate, 3 is sandwiched by the ultraviolet-rays cut middle class 5 and 5 made of synthetic resin in the ultraviolet-rays cut middle class made of synthetic resin who has the ultraviolet-rays cut function which consists of an ethylene-vinyl acetate copolymer with an adhesion function, and the wood-graining film which consists of a polycarbonate which has the encaustic layer 4 is shown.

[0015] Through the interlayers 5 and 5 made of synthetic resin, the laminating of glass plates 1 and 2 and the wood-graining film 3 is being carried out, and they are carrying out adhesion unification. The thing which prints ink to a predetermined pattern by offset printing and by which the encaustic layer 4 was formed as a wood-graining film 3 on the plastic film side with the softening temperature of 100 degrees C or more of a polycarbonate system or a polyimide system is used.

[0016] In addition, this encaustic layer 4 is formed with a desired pattern pattern so that the design nature of adjustment of desired visibility, modulated light, or a request may be obtained.

[0017] Drawing 2 is also the sectional view of the glass laminate of this invention. Unlike the example shown in drawing 1, at this example, it has inserted by the interlayer 6 made of synthetic resin who does not have an ultraviolet-rays cut function by the side of the encaustic layer 4 for the wood-graining film 3 with which offset printing in ink was performed to the front face, and the encaustic layer 4 was formed in it, and which consists of a polycarbonate, and the ultraviolet-rays cut interlayer 5 made of synthetic resin who has an ultraviolet-rays cut function by the side of the rear face of the encaustic layer 4.

[0018] Drawing 3 is also the sectional view of the glass laminate of this invention. Unlike the example shown in drawing 1, at this example, it has inserted by the ultraviolet-rays cut interlayer 5 made of synthetic resin who has an ultraviolet-rays cut function by the side of the encaustic layer 4 for the wood-graining film 3 with which offset printing in ink was performed to the front face, and the encaustic layer 4 was formed in it, and which consists of a polycarbonate, and the interlayer 6 made of synthetic resin without the ultraviolet-rays cut function by the side of the rear face of the encaustic layer 4.

[0019]

[Effect of the Invention] Since the film layer to which safety improved more and the inner layer section of an interlayer adhered ink by offset printing by a glass laminate being used is added according to this invention, visibility, modulated light nature, and design nature are raised. Therefore, by this invention, it had insurance and a visual function and supply of the high glass laminate of design nature was attained.

[Translation done.]

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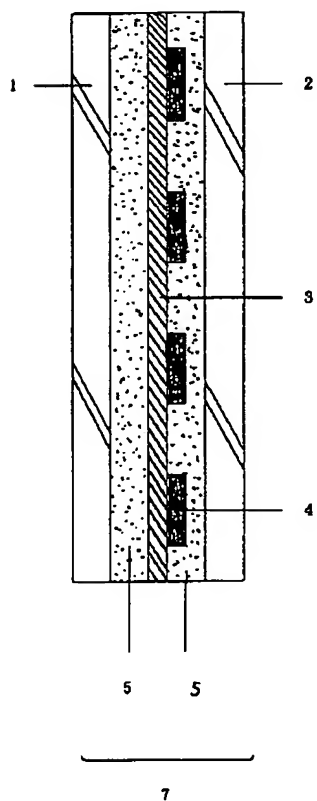
CLAIMS

[Claim(s)]

[Claim 1] The glass laminate which allots the glue line made of synthetic resin which had an adhesion function in the both sides of the wood-graining film of at least one sheet with which it comes to form a pattern [that ink was printed by the predetermined pattern by offset printing] layer, and is further characterized by coming to carry out laminating adhesion of the glass plate at the both sides of the glue line made of synthetic resin.

[Translation done.]

Drawing selection **Representative drawing** ☒



[Translation done.]

DERWENT-ACC-NO: 1996-338979

DERWENT-WEEK: 199634

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TITLE: **Laminated glass** assembly with good light adjusting properties – comprises glass plates bonded via at least one **patterned film** with synthetic resin adhesive .

PATENT-ASSIGNEE: ASAHI GLASS CO LTD[ASAG]

PRIORITY-DATA: 1994JP-0294996 (November 29, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08157239 A	June 18, 1996	N/A	003	C03C 027/12

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP 08157239A	N/A	1994JP-0294996	November 29, 1994

INT-CL (IPC): B32B017/10, B32B033/00 , C03C027/12

ABSTRACTED-PUB-NO: JP 08157239A

BASIC-ABSTRACT:

Laminated glass assembly includes glass plates bonded to each other via at least one **patterned film** with synthetic resin adhesive. **Patterned film** includes pattern layer printed in given design with ink through offset printing.

ADVANTAGE – **Laminated glass** assembly is stable with good visual property, light adjusting property and design performance.

CHOSEN-DRAWING: Dwg.1 /3

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は、合成樹脂製中間層5、5を介して積層され接着一体化している。模様付フィルム3としては、ポリカーボネート系やポリイミド系の100℃以上の軟化温度を持つプラスチックフィルム面上に、オフセット印刷によりインキを所定模様印刷して模様層4が形成されたものが用いられている。

【0016】なお、この模様層4は、所望の視認性の調整、調光、あるいは所望の意匠性が得られるように、所望のパターン模様をもって形成される。

【0017】図2も、本発明の合わせガラスの断面図である。本実施例では、図1に示した実施例とは異なり、表面にインキによるオフセット印刷が施されて模様層4が形成された、ポリカーボネートからなる模様付フィルム3を、模様層4側の、紫外線カット機能を持たない合成樹脂製中間層6と、模様層4の裏面側の、紫外線カット機能を有する合成樹脂製紫外線カット中間層5とで挟んでいる。

【0018】図3も、本発明の合わせガラスの断面図である。本実施例では、図1に示した実施例とは異なり、表面にインキによるオフセット印刷が施されて模様層4が形成された、ポリカーボネートからなる模様付フィルム3を、模様層4側の、紫外線カット機能を有する合成

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樹脂製紫外線カット中間層5と、模様層4の裏面側の、紫外線カット機能を持たない合成樹脂製中間層6とで挟んでいる。

【0019】

【発明の効果】本発明によれば、合わせガラスが用いられることで、より安全性が向上し、かつ、中間膜の内層部に、オフセット印刷によりインキを付着されたフィルム層が付加されているので、視認性、調光性、および意匠性が高められている。よって、本発明により、安全かつ視覚的機能を持ち、意匠性の高い合わせガラスが供給可能となった。

【図面の簡単な説明】

【図1】本発明の合わせガラスの断面図

【図2】本発明の合わせガラスの断面図

【図3】本発明の合わせガラスの断面図

【符号の説明】

1、2：ガラス板

3：模様付フィルム

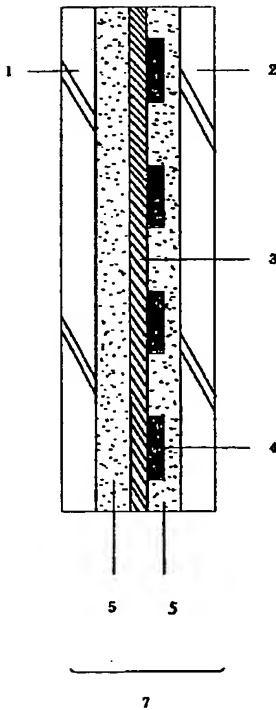
4：模様層

5：合成樹脂製紫外線カット中間層

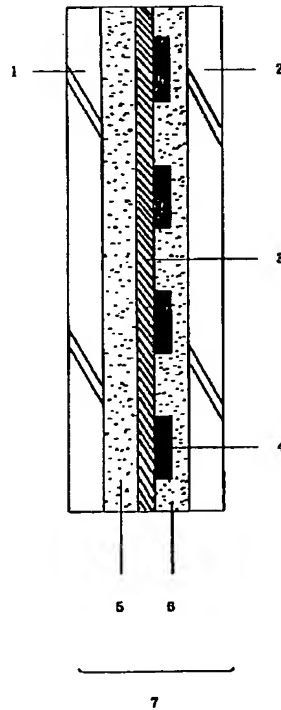
6：合成樹脂製中間層

7：合わせガラス

【図1】



【図2】



【図3】

